

**Special Feature**

*Illinois, Iowa, Kansas,  
and Missouri  
Insurance Success Stories*



## Where the Eagles Fly

Grafton, Illinois, is one of the prettiest places you'll find in the Midwest. The old section of town lies where the Mississippi and Illinois Rivers meet, about 50 miles upstream from the St. Louis Gateway Arch. Grafton was founded in 1836, and you'll still see paddlewheel riverboats and ferries cutting across the rivers.

Grafton is also renowned for a number of things—for its morel mushrooms and as the winter home of the American Bald Eagle. Some would argue, too, that Grafton is a “must-see” venue on one of the most scenic drives in the United States, along Route 100 between Alton, Illinois, and Pere Marquette State Park.

There's a great deal in Grafton to be justifiably proud of—the people, the place, the history. But part of Grafton's history also involves frequent flooding.

“With floods and Grafton, it's not a question of *if*,” says Richard Mosby, Mayor of Grafton and owner of Mosby's Woodwork. “It's really a question of *when*. So everyone needs to be protected.”

True to his own advice, in 1993, Mosby did everything in his power to protect his business from flood damage. Mosby's Woodwork on East Main Street lies just at the edge of the Mississippi River, so when the river rises he takes extra precautions.

With each revised estimate of the flood stage that summer, Mosby would raise his equipment and inventory higher. Finally, he had everything on 6-foot-high platforms, thinking that that would be high enough. In addition to sandbagging and elevating his

contents, he also had flood insurance under the National Flood Insurance Program (NFIP).

By July 1993, flood stages along the Mississippi and the Illinois went to record levels and finally flooded Grafton. The depth of the floodwater inside Mosby's Woodwork was 10 feet, just 2 feet below the roof.

“I lost close to \$180,000 in building and contents from the flood,” Mosby recalls.

One consolation, though, was that Mosby's lender had required him to carry \$80,000 worth of flood insurance. This helped, although Mosby now wishes he had carried more flood insurance protection that summer. But Mosby also rolled up his sleeves and rebuilt his business and helped rebuild his community, too.

After the 1993 flood, Grafton became a mitigation success story. Seventy houses and 18 commercial buildings were bought and removed from Grafton's floodplain, at a cost of \$2,320,980 in FEMA's Hazard Mitigation Grant Program funds and \$773,636 in matching funds from the Illinois Department of Commerce and Community Affairs.

So some things in Grafton have changed for the better since 1993. The bluff overlooking the old town now has a new subdivision out of the reach of floodwaters. The old section of Grafton has a new face for some of its businesses, without losing any of its charm, and a number of homes at the riverside have been elevated above the reach of the floodwaters. But some things have remained the same since 1993.

Richard Mosby still lives in a hollow that comes alive each spring with dogwoods; the bald eagles still come home to winter in Grafton; and Mosby still carries NFIP flood insurance on his business—both the building and the contents. And the advice Mosby offers, for everyone living in a floodplain, is the same regardless of whether their bank

requires them to carry flood insurance: “Go get flood insurance.”

We think that advice makes sense coming from both a business owner and community official who lived through one of the worst floods in the nation’s history, only to make his community stronger and safer.

## Red House on the Wapsi

**B**ob and Joni Hocken don't plan to let the muddy waters of the Wapsipinicon River drive them from their Independence, Iowa, home again.

Twice in 1999—first in May and later in July—the “Wapsi,” as the river is known locally, flooded the Hockens’ red-painted, 100-year-old home. Both were traumatic experiences, Joni Hocken said, but the May flooding was worse. Spring planting had just taken place, so the river brought with it large quantities of mud and silt and had an odor she’ll never forget.



*“You need a positive attitude to make it through something like this.” (Photo: Bob and Joni Hocken)*

At its highest, the brown water flooded the first floor to a depth of 46 inches, soaking carpeting, furniture, and personal items. Even food, stacked on the kitchen counter, and thought by Bob and Joni to be out of harm’s way, got wet and was ruined.

They’d just managed to mop up that damage when the river flooded again 2 months later, although not quite as bad as it did in May. “You need a positive attitude to make it through something like this,” Joni said.

Bob and Joni, both Iowa natives, thought about taking advantage of a city buyout

backed up by funding from the Federal Emergency Management Agency (FEMA) and the State of Iowa.

Buyouts in Independence began in 1993. Thus far, 28 families have accepted buyouts and moved out of the floodplain. However, a severe housing shortage forced many of them to move away from town. The Hockens wanted to stay in Independence.

Independence, a town of 6,000 residents and the county seat of Buchanan County, was settled in 1847. Its vibrant downtown is surrounded by large single-family homes with big lawns and old trees. The Wapsipinicon Mill, severely damaged by flooding in 1999, dominates the west end of First Street.

The Wapsi has repeatedly devastated this community. Between 1968 and 1999, it flowed out of its banks 11 times. After the Midwest flood of 1993, the community decided enough was enough. Repeated flooding was becoming a severe drain on resources, so the community agreed to



*Joni Hocken said she and her husband, Bob, decided their Independence, Iowa, home had too many memories, such as this door frame that recorded the heights of children and grandchildren, to sell after the floods of 1999. Instead, they elevated their home out of the floodplain. (Photo: David Teska, FEMA)*



*At first, said Joni Hocken, their Independence, Iowa, neighbors were puzzled by the spectacle of their 100-year-old, two-story, red-painted home being elevated on new concrete foundation walls. (Photo: Mike McCoy, FEMA)*

participate in a buyout program under FEMA's Hazard Mitigation Grant Program, as provided under the guidelines of the Robert T. Stafford Disaster Assistance and Emergency Relief Act. This program provided additional federal funds to the State of Iowa to fund community projects to lessen or mitigate damage from future disasters.

Because the Hockens' home sustained substantial damage, defined as more than 50 percent of its market value, they qualified for an additional flood insurance benefit. This benefit is spelled out in a provision of the National Flood Insurance Program (NFIP) flood insurance policy called Increased Cost of Compliance (ICC) coverage.

Under ICC, NFIP-insured property owners may qualify for an additional payment of up to \$20,000 to bring their flood-damaged buildings into compliance with local floodplain laws and ordinances. [Effective

May 1, 2003, the ICC coverage limit was increased to \$30,000.] In the Hockens' case, their home was elevated with a combination of funds—a regular NFIP flood insurance claim payment, an ICC payment, and their own money.

In the end, Bob and Joni couldn't bring themselves to sell their home of 27 years.

They had raised their two children, Robbie and Kelley, in that home and their three grandchildren are often about the place. Dates, names, and height marks on a door frame provide a visible link between the house and the Hocken family.

Once they decided moving wasn't an option, Bob and Joni decided to take the radical step of elevating their home out of the floodplain. To further protect it, they moved it 50 feet from the street and 50 feet back from the bank of the Wapsi.

At first, Joni said, neighbors were puzzled by the spectacle of a two-story home being

elevated on new concrete foundation walls. “I had people saying, ‘You don’t want to raise that house,’” she recalls.

Their experience with the flooding of the Wapsi has taught the Hockens what it means to live near a flood-prone river. Bob laid out the home’s new first floor (the original first floor is now at the second-story level) in such a way that, when the river floods again, the water will simply flow out when the level drops. “The next time it floods the clean-up will cost about \$100,” Bob said.

To cut costs and maintain control of the project, Bob recommends that anyone contemplating such a project act as his own contractor. He’s kept control of the project from the start and held costs down. The final bill, including the \$6,500 it took to raise the home, will come to about \$60,000, according to Hocken—far less than building or buying elsewhere. They also decided to make the house handicapped accessible to enhance its resale value.

The Hockens further reduced costs by tapping into family resources such as Joni’s uncle, who is a carpenter.

Living close to the Wapsi and having experienced three floods in the 1990s taught the Hockens the value of flood insurance. Joni said that homeowners in a floodplain should consider NFIP flood insurance, which covers the structure and its contents.

These days, Bob and Joni Hocken can talk philosophically about their experiences with the Wapsi. They know what it’s like to live next to a river that, on most days, flows serenely past their home but can quickly become tempestuous and threatening. Rather



*Bob and Joni Hocken decided that selling their Independence, Iowa, home of 27 years wasn't an option, even after it flooded twice in 1999. Instead, they elevated the home, seen in the background, so that the living areas are now well above the floodplain. (Photo: David Teska, FEMA)*

than move away, certainly an option for some, the Hockens decided to stay and make the necessary changes to their home so that they are prepared when the Wapsi rages again. They know they can’t tame nature. What they can do and have done is use the knowledge gained from the past so that they aren’t flooded out of their home the next time.

“You live here; you have to expect it,” Joni Hocken said.



## Learning a Lesson . . . the Hard Way

**I**n the torrential downpour of October 4, 1998, Doug Lytle, owner of Olympic Cabinet Company, and his father, Bill, stood high on a bridge embankment overlooking their businesses on Southwest Boulevard in Kansas City, Kansas.

Doug's 13,000-square-foot cabinet fabrication shop was right on the banks of the overflowing Turkey Creek. "A wall of water 8 feet high" as he later described it, came barreling down from nearby railroad yards. The water slammed into the back wall of his building, caving in a 25-foot section. It continued inside, rushing through the shop and out the front overhead garage doors.

The wall of water carried off tools, equipment, and projects-in-progress for clients. It also swept away irreplaceable memorabilia of his pole vaulting performances at the 1984 U.S. Olympic summer games.

In a heartbeat, Doug Lytle's business was a ravaged, soaking mess. And an important piece of his life was washed away forever. And, as he later found out, he didn't have insurance to cover the losses.

Doug wasn't the only one in the family who suffered. Bill Lytle's office building stands on the same road but about a block "downstream" from his son's cabinet shop. The October 4 storm wasn't kind to him, either. Bill's two-story building was filled with more than 4 feet of water.

Bill was no stranger to flooding. His building got about 2½ feet of water during the Midwest flood of 1993. The difference, he says, was that in 1993, the water came up more slowly. This year's storm was a

different story. The water was fierce and fast. A 6-foot-tall privacy fence buckled and disappeared. Two storage sheds were washed away. His parking lot rippled and heaved. Only the building remained.

Now, for the second time, Bill Lytle's losses—contents and damage to his building—were covered by a National Flood Insurance Program (NFIP) flood insurance policy.

"Had to buy flood insurance to finance the building when I bought it in 1988," he said. "In 1993, the flood insurance agent was on the spot within four days. FEMA was here quick and paid quick," he said confidently.

For Doug, the story wasn't so good. He wasn't covered by flood insurance. When he changed insurance agents a few years back, the flood insurance coverage he had "somehow got dropped." He never knew it until it was too late.

"I've probably lost a quarter of a million dollars," he said ruefully about the October storm and its effect on his business. "I'm probably the largest employer in this quadrant, and I was shut down for a month," he said. More than a month after the flood, part of the operation still was shut down.

Both buildings are located in a well-known floodplain. Southwest Boulevard often takes on water during a heavy rain, the Lytles say. Still, there are distinct advantages to being there. The Boulevard is right along I-35, with easy access to Kansas City's southern suburbs, where many of Doug's customers are building.

“We wouldn’t want to sell out,” Doug commented. “We’ve been on this boulevard for 12 or 13 years. The Boulevard is a really good area for business. It’s an industrialized area and all our major suppliers are close by.”

So, Doug is taking steps to protect his future and his business from the next inevitable flood. He’s purchased flood insurance from the NFIP and is taking out low-interest disaster loans from the U.S. Small Business Administration to clean up, repair, and rebuild. He’s reinforcing the floors, raising the heating and air conditioning units, and possibly building a retaining wall.

“I’m almost through the 30-day waiting period for my flood insurance policy to go

into effect,” he said, eyeing the blue November sky. He believes his business will be better protected the next time.

The lessons Doug learned from that October storm haven’t stopped at the doors of his business. Although his home wasn’t damaged this time, he knows of others who live outside of floodplains and who still got as much as 2 feet of water inside. In fact, he knows of a lot of places that took on water in that storm for the first time ever.

“Floodplains seem to change,” he said wryly.

With that in mind, he’s getting flood insurance for his house, too.

## My Loan Man Made Me Do It

Les Wheatley hadn't really thought much about it. He had been a good businessman all his life. But when he was applying for a loan to expand Dotty's Quilt Shop, Wheatley's lender insisted that he buy flood insurance.

It seemed like just one more thing at the time.

Today he says, "Thank God, my loan man made me buy it. It kept me in business."

It was the afternoon of July 30, 1993. Les, his daughter, and her husband had heard the warnings earlier that day, as everyone else had in Chesterfield, Missouri. For 6 hours, they piled sandbags around Dotty's.

They also did another smart thing and rented a truck, the last one available from the rental place down the street. They loaded it up with as much as they could from Dotty's—sewing machines, fabric, records—and moved to high ground.

Late that night, the levee blew, and the Missouri River rushed past Dotty's on both sides, only to back up and fill the place with floodwater that almost reached the 15-foot-high ceiling.

"It was just like filling up a bathtub," Wheatley recalls. "Some people around here called the city 'Lake Chesterfield.'"

The water stayed high for 3 weeks in and around Dotty's. Finally when it receded, Les and his family took stock and started the grueling job of cleanup.

Les got back on his feet thanks to hard work, the support of his family, lots of friends, and his National Flood Insurance Program flood insurance claim payment.

Dotty's was one of 65 businesses in Chesterfield, Missouri, able to start back up again. Close to 200 others in Chesterfield never did. Many of the failed businesses didn't have what Les Wheatley had: flood coverage.

Now, it's 10 years later. Les Wheatley has sold his business and retired. But he'll never forget that day in 1993 when the Missouri River swept away so many people's dreams.

And if anyone wants to go into business, Les has two pieces of advice: keep good books and "you'd better have flood insurance."

We think that advice is rock-solid, especially from one who was a little reluctant to buy flood insurance in the first place.



## Computer Oatmeal

From his seat in the small airplane circling at 12,000 feet above the watery disaster scene on the ground, Steve Rouff couldn't make out the exact location of International Marketing Group, Inc. (IMG), one of more than 200 businesses in Chesterfield, Missouri, submerged by the 1993 flood. As far as the eye could see, it looked like one vast, muddy lake.

While Rouff dreaded the grueling cleanup ahead of him, he did have the comfort of knowing IMG was protected, at least financially.

"I've lived in the St. Louis area most of my adult life, so floods are no stranger to me," said Rouff. "But I bought flood insurance largely on the advice of my insurance agent. Now, I can't thank him enough."

For about 3 weeks, Rouff couldn't even get back into his business to assess the damage. Perched on telephone poles, the egrets and water birds seemed to be waiting, as well, to reclaim the place for themselves.

When Rouff could finally assess the damage, he saw what he now refers to as "computer oatmeal." Nothing was left. But because of some careful planning and some quick thinking, he and his "team" (that's how he refers to his employees) were able to save the business.

Ten years after the Great Midwest Flood of 1993, Steve Rouff reflects on what helped IMG, Inc., stay afloat when almost two-thirds of the businesses in Chesterfield never recovered.

"We survived because we had four things going for us."

First of all, IMG, Inc., had backed up all of its computer and record systems at another location. This is a business practice that emergency managers, bank regulators, and a number of corporations have been urging for years.

Second, Rouff and his team had developed a disaster recovery plan that they had walked through—each knowing what to do and when to do it in case of an emergency.

Third, they had removed IMG, Inc.'s, servers from the Chesterfield Valley Industrial Park when they got the first warning.

Last, but certainly not least, Steve Rouff had the protection of his National Flood Insurance Program (NFIP) flood insurance policy.

To this day, Rouff is proud that his team's planning paid off: International Marketing Group, Inc., suffered no business interruption after the 1993 flood, and they were able to provide seamless service to their customers.

This is what planning did for IMG, Inc.: On Friday, July 30, the day of the flood, IMG removed vital servers to a safe location. On Saturday, suppliers were rerouting orders. On Sunday, August 1, 20 single phone lines were dropped at IMG's new site. On Monday morning, they were taking orders from their customers. And on Tuesday, August 3, those orders were being shipped.

For the long-term, however, IMG was able to recover because Steve Rouff had bought flood insurance.

“I would have bought more if I could have.”  
(There is a \$500,000 statutory limit on NFIP flood insurance protection for nonresidential contents, such as business inventory, equipment, and furnishings.)

Steve Rouff’s only regret today is that he lost some irreplaceable treasures in the 1993 flood: a cherished picture of his wife, and the crafts his then 8-year-old had made just for him.

The egrets and Steve Rouff are no longer in Chesterfield.

But his business survived. And, according to Rouff, this is a large part of the reason: “If you’re going to live or work in a floodplain, you need flood insurance . . . and maybe a boat.”

## **FEMA Region VIII**

# ***The Langdon, North Dakota, Success Story***

FEMA Region VIII serves Colorado, Montana, North Dakota,  
South Dakota, Utah, and Wyoming.

For contact information, see the FEMA Regional Offices list on pages vii-viii.



## **Hazard Mitigation Grant Program Diversion Project in Langdon, North Dakota**

After the 1993 flood, the City of Langdon, North Dakota, installed a new diversion channel to handle excessive storm runoff and flooding. The community received almost \$82,500 in federal funds under FEMA's Hazard Mitigation Grant Program to help pay for this \$110,000 project. The diversion project now enables floodwaters to flow around the city through a series of channels.

That was not the case during the 1993 Midwest flood. Water was flowing through Langdon at an estimated 80-90 cubic feet per second. Water levels in Langdon increased rapidly with nowhere for any of the excess water to drain.

The 1993 flood caused more than \$700,000 in damages for this small community. The excess water infiltrated Langdon's sanitary sewer system and posed a threat to public health and safety. The flooding also impacted the city water reservoirs, the city lift station, and numerous residences.

The diversion project gave an early return to Langdon on this investment in mitigation. During a spring flood of 1997, the water flowed through the diversion channel at an

estimated rate of nearly 150 cubic feet per second—close to double the rate of the 1993 flood. Langdon residents reported no damage from the 1997 flood, one of the most damaging in North Dakota's history.

If the diversion project had not been completed, the City of Langdon estimates, damages would have exceeded \$1 million. In Langdon, flood hazard mitigation has paid off handsomely: \$82,500 in federal mitigation funds "bought" the city \$1 million in avoided flood damages.

The residents of Langdon, however, are the main beneficiaries of this mitigation project. They are safer from the effects of spring flooding. Their sanitary sewer system is protected from flooding, and the residents have a safer and healthier environment to live in.

*For additional mitigation success stories, see Journeys: North Dakota's Trail Towards Disaster Resistance, prepared and issued by FEMA Region VIII and the North Dakota Division of Emergency Management, January 2001. Journeys reflects mitigation successes after the 1997 Upper Midwest flood.*



# **Association of State Floodplain Managers**

**Excerpts from**

## ***Mitigation Success Stories***

**Edition 4, January 2000**

The Association of State Floodplain Managers (ASFPM) is an organization of professionals involved in floodplain management, flood hazard mitigation, the National Flood Insurance Program, and flood preparedness, warning, and recovery.

For information, visit ASFPM's web site (<http://www.floods.org>).



# Petersburg, Illinois

**Location:** Petersburg, Illinois  
**Project:** PORTA High School Community Problem-Solving (CmPS) Team  
**Technique(s):** Open Space Creation and Preservation  
**Contact:** Mary Mies, PORTA High School CmPS Team Sponsor and Coach, mmies@roe38.kk12.il.us or 217-632-3216

## Background

When the settlers built Petersburg, Illinois, they chose a site on the banks of the Sangamon River. However, the river's flooding often plagued the oldest part of Petersburg. Families living there suffered declining property values and an overall degeneration of the area. The city could not squeeze enough money from an already strained budget to contain the flooding. After devastating floods in 1979, 1981, 1983, 1990, and 1993, the city sought outside help. Petersburg applied for and received federal funds from FEMA HMGP.

The Hazard Mitigation Project enabled the city to acquire and remove residences and other structures located in the designated floodplain in preparation for project development. The City Council was delighted when the PORTA High School Community Problem-Solving (CmPS) Team expressed an interest in seeking permission to design a reuse plan for a portion of the property after the acquisition program was completed. For each aspect of the project, the team carefully considered all appropriate floodplain uses and incorporated designs that would withstand occasional flooding. The greatest hindrance was that the team had little money to work with. The daunting question was how to raise enough funds to do anything significant with the land?

## Project Description

In two lots, the CmPS Team planted flower gardens containing landscaped beds of perennials, installed paths of water-resistant brick paving stones, and added accents such as a flagpole, birdbath/fountain, ornamental trees, and rustic benches. Natural plantings of hedge roses, which grow to 6 feet at maturity, define park boundaries.

Three other lots were designed as preschool playgrounds. Selection of playground equipment reflected the results from polls of elementary school students' favorite play equipment.

Fund raising activities produced more than \$15,000 and included the "Decorate an Abe" contest in honor of former Petersburg resident Abraham Lincoln. Area businesses sponsored and decorated silhouettes of Lincoln, and passers-by used their spare change to vote for their favorites. The "Abes" were later auctioned off to raise additional funds.

Sponsorships by civic groups and donations from private citizens also helped with the funding. The Illinois Department of Commerce and Community Affairs (DCCA) and the Association of State Floodplain Managers contributed \$51,000.

As the project work was implemented, the city council designated additional lots for which the CmPS Team could develop plans for reuse. The team's efforts motivated other groups to become involved in the reuse of floodplain lots. The Petersburg Tree Committee planted a Memorial Grove, and the High School Science Club began a

prairie grass restoration project on lots that adjoined the preschool playground.

## Benefits

- Community and neighborhood pride has been restored by reusing an area of town that was devastated by floods. The whole community has benefited by becoming involved in reclaiming and restoring land previously deemed unusable.
- A useful recreation area was created. Neighborhood children can now play in a clean, safe playground.
- Fund-raising efforts and sponsorships stimulated community interest in the park and instilled feelings of personal ownership and pride.
- The reuse efforts have been cited as a “blueprint” for other small towns facing similar problems. The team has



presented the project to many state agencies, federal agencies, and associations.

- The CmPS Team has proven that through education, initiative, and persistence, communities can revitalize flood-prone areas. These properties can become a focal point of pride and beauty.
- This project has brought together a community, has restored the integrity of the land, and has created a lasting contribution to Petersburg.

## Costs and Funding Sources

Total project cost = \$67,000

- DCCA and the Association of State Floodplain Managers funded the shelter, picnic tables, grills, benches, and other amenities of the playground = \$51,000
- Local fundraising and private contributions = \$16,000



*Members of Petersburg, Illinois's, PORTA High School Community Problem-Solving Team helped prepare flower beds for the winter in the new city park—and had a lot of fun in the process.*

# Beatrice, Nebraska

**Location:** Beatrice, Nebraska  
**Project:** Beatrice Acquisitions  
**Technique(s):** Acquisition, Bank Stabilization  
**Contact:** Steve McMaster, Nebraska  
Department of Natural Resources,  
smcmaster@dnr.state.ne.us or  
402-471-3957

## Project Description

After major floods on the Big Blue River in 1973 and 1984, the City of Beatrice instituted its own voluntary acquisition project for residential structures. After another flood in 1993, the city continued to acquire flood-prone structures with funding from FEMA's HMGP and FMA Program.

Beatrice was the first community in the nation whose flood mitigation plan received an FMA grant. This funded the acquisition of 12 residential structures in the Big Blue River floodplain.



*In Beatrice, Nebraska, repetitive-loss buildings in the floodplain were acquired and demolished by the city. The open space now is home to athletic fields and parks.*

To date, Beatrice has almost completed the goal of removing all of the residential structures in the city's regulated floodplain. The majority of the remaining insurable structures are commercial. Of the 16

repetitive-loss structures in the city, 14 have been acquired and demolished. Most of the acquired open space is being used for athletic fields and parks. A hiking and biking path is to be constructed in the future.

## Benefits

- No more federal disaster assistance will ever again be paid for these properties.
- Only open space uses compatible with flood storage will be permitted.
- Expenses for flood cleanup and fire department/law enforcement overtime for flood duty and rescue have been reduced.
- Public safety has been increased.
- The natural habitat for wildlife has been expanded and enriched.
- Beneficial wetland acreage has been gained.
- Creation of a natural buffer strip (riparian corridor) has increased water quality.
- Beatrice was selected by FEMA as Nebraska's first Project Impact community.

## Costs and Funding Sources

Total cost of the project (including demolition) = \$370,000

- FEMA FMA Program funds were first received in 1997 and were used to acquire 12 homes at 75% = \$277,500
- City of Beatrice funding at 25% = \$92,500



## Union, Missouri

**Location:** Union, Missouri  
**Project:** Single-Family Home Acquisition;  
Mobile Home Park Acquisition  
and Assistance  
**Technique(s):** Acquisition, Demolition  
**Contact:** Sheela Amin, Missouri Emergency  
Management Agency,  
samin@sema.state.mo.us or  
573-526-9116

### Background

With both the Mississippi and the Missouri Rivers located within its borders, the State of Missouri is highly susceptible to riverine flooding. The state, however, is also susceptible to flash flooding. In fact, since 1993, 64 of the 88 flood-related deaths in Missouri were caused by flash floods, not riverine floods. In Missouri, flash flooding is a far greater threat to lives and property than riverine flooding.

The City of Union, located just 45 minutes by car from Saint Louis, is the Franklin County seat. It is a peaceful community of 7,757 people. Flooding in Union is usually caused by the Bourbeuse River. In fact, it was several of the normally quiet little streams with names like Flat Creek, Possum Creek, and Fenton Creek that were suddenly transformed into raging torrents of sewer and stormwater runoff when more than 14 inches of rain fell in less than 8 hours in May 2000. This incredible, unexpected discharge formed a destructive wall of water that rudely awakened many of the city's sleeping residents, immediately endangering their lives and damaging or destroying numerous homes, vehicles, and personal belongings.

The State of Missouri received a presidential disaster declaration on May 12, 2000,

establishing funding for disaster relief and mitigation activities through FEMA.

### Project Description

On May 30, the city submitted an application to Missouri's State Emergency Management Agency (SEMA) to purchase 29 residential structures and five mobile home parks. The value of the initial application was \$2,044,340. Due to funding limitations, the application was modified to include only substantially damaged, residential, "stick built" structures located within the "1-percent-chance flood" event area. (The "1-percent-chance flood" is a flood event that has a 1 percent chance of occurring or being exceeded in any given year. The 1-percent-chance flood formerly was referred to as the "100-year flood.")



*Residents of mobile home parks were among the people hit hardest when Union, Missouri, was inundated by 14 inches of rain on a single day in May 2000.*

The City of Union ultimately acquired a total of 17 properties. The demolition project was completed on January 18, 2001. As a result of the acquisition program, 17 families are now "out of harm's way." Those 17 properties are deed restricted for

open space, which will prevent future development and the potential for flash flood deaths in that area.

The State of Missouri Community Development Block Grant (CDBG) program was notified by SEMA and the City of Union of the funding shortfall, specifically in regard to the mobile home parks. The May 2000 flood event displaced about 225 people from three mobile home parks. Debris removal costs in the three mobile home parks totaled \$241,262. In addition, a majority of the IFG and Disaster Housing payments, which totaled over \$722,000, were also provided to the residents of the three mobile home parks. The City of Union applied for and received a grant to acquire the land and financially assist the owners of approximately 58 mobile homes in the three mobile home parks. These mobile home parks will also be deed restricted for open space.

### Benefits

- The costs associated with response to and recovery from future flooding in the acquisition areas will no longer exist. This includes approximately \$963,262 spent for IFG, Disaster Housing, and PA.
- The flash floods of May 2000 demonstrate the value of disaster and mitigation money invested by the federal, state, and local governments in voluntary flood acquisition programs. When a property is acquired and demolished in an acquisition program and the area is converted to open space for perpetuity, that area may flood again at some time, but people and property simply will not be there to suffer further injuries and damage. In the City of Union, when the next flood event occurs, the damage will be much more limited

because many of the homes and people will no longer be in harm's way.



*In the floodplain area of the City of Union, Missouri, severely flooded buildings were demolished and cleared to create open space.*

### Costs and Funding Sources

#### *Single-Family Home Acquisition and Demolition*

Total project cost = \$926,412

- FEMA HMGP funds for acquisition = \$628,336
- State of Missouri General Revenue HMGP funding for acquisition = \$209,446 (25% of the matching funds)
- FEMA PA funds used for demolition = \$66,472
- State of Missouri General Revenue funding for demolition = \$8,863 (10% of the matching funds)
- Local costs for demolition = \$13,295 (15% of the matching funds)

#### *Mobile Home Park Acquisition and Assistance*

Total project cost = \$435,000

- Missouri's CDBG program to acquire the land and financially assist the mobile home owners = \$435,000

# East St. Peter, Minnesota

**Location:** East St. Peter, Minnesota  
**Project:** Commercial Buyouts  
**Technique(s):** Acquisition, Relocation, Elevation  
**Contact:** Terri Smith, Minnesota Division of  
Emergency Management,  
Terri.Smith@state.mn.us or  
651-296-0469

acquisition can completely eliminate future flooding problems by removal of structures. However, the acquisition process can take years to complete.

## Project Description

### Background

After floodwaters devastated the area around East St. Peter, Minnesota, in the 1960s, the U.S. Army Corps of Engineers constructed a temporary dike in 1969 to protect homes and businesses from flooding. Because the dike was not a permanent structure, no funding was available for maintenance or upgrading. The community needed a permanent solution.

The Minnesota River covered Highway 99 in Le Sueur County in 1993, 1997, and 2001. In each case, the high water caused the closing of the busy roadway that crosses the river and made the bridge from the unincorporated community of East St. Peter to the city of St. Peter impassable. The flood of 1993 caused hundreds of thousands of dollars in property damage and lost revenue.

Repetitive flooding endangers communities at many levels: loss of life, reduction of property values, significant losses in revenue, and stress-related illnesses. These severe consequences push citizens and local officials to action and force difficult decisions.

The concept of FEMA's acquisition program is simple. When homes and businesses have been involved in heavy flooding (especially multiple flooding events), and local officials and owners of these properties are looking for a solution,

An acquisition program, initiated after devastating flood damage in 1993, helped 16 East St. Peter business owners and two homeowners move out of the floodplain by the time the 1997 flood hit.

A number of businesses were involved, and various funding agencies participated. Public meetings were held, and subsequently, appraisals and negotiations were conducted on all the properties. Owners were offered a preflood fair market price and additional monies for relocation expenses. Environmental testing took place as required by federal law in the purchase of commercial property. By the next major flood, the acquisitions were complete.

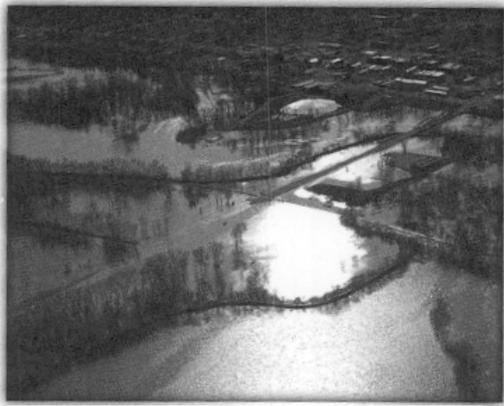
The decision to "get out" was an agonizing one. For some, it was saying good-bye to the livelihoods they had known for 20 to 30 years and a lifetime of customer-based relationships.

The owners of the Whiskey River restaurant and bar, the largest dining establishment in the St. Peter area, chose to remain along Highway 99 and undertook a major rebuilding effort on higher ground.

Cooperating with local, state, and federal agencies, the owners of the Whiskey River elevated their building on fill in compliance with the local floodplain ordinance, greatly reducing the risk of flooding. "We owned the land already. We had been in business

for 15 years and had a good reputation. We checked into other sites in St. Peter and they just didn't have the space," said the owner.

A short-grass prairie now grows where a cement plant, auto body shop, furniture store, and grain elevator once conducted operations. The Le Sueur County Park Committee has responsibility for managing 40 acres that Le Sueur County now holds title to through the acquisition project. Plans for the space include use by community groups for Boy Scout encampments and as a picnic area.



*Much of East St. Peter, Minnesota, was under water during the Minnesota River Valley flooding in 2001. (Photo: St. Peter Herald)*

## Benefits

- During the 1997 and 2001 flood events, there were no damages to residences and businesses along Highway 99 in the East St. Peter area. "Had the houses and

businesses still been located in East St. Peter, they would have had 2 to 6 feet of water in them," said Darrell Pettis, Le Sueur County Engineer, describing the 2001 flood.

- Removal of commercial structures (e.g., auto body) helps to reduce the risk of surface and groundwater contamination.
- "The river was so powerful, the movement of the water would make the ground shake," said John Zimmerman, a long-time resident. "Today, if the Minnesota River floods, it floods and it's okay."

## Costs and Funding Sources

Total project cost = \$2,331,000

- FEMA HMGP = \$828,000
- Le Sueur County stepped up to be the local-share partner for FEMA's HMGP acquisition project, administered through the Minnesota Division of Emergency Management (DEM) after the presidentially declared disaster of 1993 = \$46,000
- The Minnesota Department of Trade and Economic Development (DTED) provided funding for commercial relocation, business reestablishment, environmental studies, and cleanup = \$1,182,000
- Minnesota DNR funded = \$25,000  
Minnesota DEM funded = \$250,000

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## Articles

Faber, Scott. "Flood Policy and Management." *River Voices*, Vol. 8, No. 2, Summer 1997.

FEMA Region VII. "Learning a Lesson . . . the Hard Way."

FEMA Region VII. "Red House on the Wapsi."

FEMA Region VIII. "Hazard Mitigation Grant Program Diversion Project in Langdon, North Dakota."

## Web Sites

Association of State Floodplain Managers: <http://www.floods.org>

FEMA Flood Hazard Mitigation Success Stories: <http://www.fema.gov/fima/success.shtm>

Under "Case Studies," visitors may print a Microsoft Word version or an Adobe PDF version of *Success Stories from the Missouri Buyout Program*, published by FEMA Region VII and the Missouri State Emergency Management Agency.

Under "Regional Resources," visitors will find links to FEMA Region V's *Mitigation Success Stories* and to *Journeys: North Dakota's Trail Towards Disaster Resistance*, published by FEMA Region VIII and the North Dakota Division of Emergency Management.

